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PROCEEDINGS  
OF  
THE ROYAL SOCIETY.

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1846.

No. 66.

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November 30, 1846.

*At the Anniversary Meeting,*

THE MARQUIS OF NORTHAMPTON, President, in the Chair.

Mr. Cooper, on the part of the Auditors of the Treasurer's Accounts, reported, that the total receipts during the past year, including a balance of £2076 11s. 10d., carried from the account of the preceding year, amount to £5218 1s. 3d.; and that the total amount of payments during the same period, including an investment of £1000 in the funds, was £3332 8s. 1d., leaving a balance in the Treasurer's hands of £1885 13s. 2d.

The thanks of the Meeting were given to the Auditors for the trouble they have taken in examining the Treasurer's Accounts.

The Secretary then read the following lists of deceased Fellows of the Royal Society, and of those elected into the Society since the last Anniversary in 1845.

List of Fellows of the Royal Society deceased since the last Anniversary (1845).

*On the Home List.*

The Marquis of Ailsa.  
George Barker, Esq.  
John Bostock, M.D.  
Hon. Sir Courtenay Boyle.  
Sir James Carnac.  
Joseph Constantine Carpue, Esq.  
Rev. George D'Oyley, D.D.  
Sir Thomas Grey, M.D.  
Col. Hon. Henry Howard.  
Henry Gally Knight, Esq.

Thomas Murdoch, Esq.  
Right Hon. Sir George Murray,  
G.C.B.  
Edward Rudge, Esq.  
Richard Simmons, Esq.  
Honoratus Leigh Thomas, Esq.  
John Thomson, M.D.  
John Warburton, M.D.  
Sir Charles Wetherell, D.C.L.

*On the Foreign List.*

Friedrich Wilhelm Bessel.

| Baron Damoiseau.

List of Fellows elected into the Royal Society since the last Anniversary (1845).

*On the Home List.*

William Addison, Esq.	Henry Bence Jones, Esq., M.A.
William George Armstrong, Esq.	Joseph Henry Kay, Esq.
Golding Bird, M.D.	Edwin Lankester, M.D.
Rev. James Booth, LL.D.	John Liddell, M.D.
George Buist, D.C.L.	James Matheson, Esq.
Major Cautley.	Major Moore.
Samuel Cooper, Esq.	James Neilson, Esq.
James William Gilbert, Esq.	George Newport, Esq.
John Goodsir, Esq.	The Lord Bishop of Oxford.
Richard Dugard Grainger, Esq.	Alexander John Sutherland, M.D.
Thomas Hetherington Henry, Esq.	Theophilus Thompson, M.D.
Percival Norton Johnson, Esq.	William West, Esq.
	John Wilson, M.D.

*On the Foreign List.*

M. Argelander.	M. A. T. Küpffer.
M. Auguste De la Rive.	

The President then addressed the Meeting as follows:—

GENTLEMEN,

IT is with the deepest concern that I have to commence my address to you by expressing my regret that death has deprived your Council and myself of the services of one who has ever been most zealous for the promotion of your interests,—I need not say that I speak of the late lamented Dr. Bostock.

During the last twelvemonth your Council have been unremitting in its attention to its duties, and I therefore beg leave to tender to them your thanks.

The year that has just elapsed has been a very important one in the annals of science, both at home and abroad. On the continent it has been remarkable for the discoveries of M. Schönbein, M. Le Verrier and M. Gall, while the researches and calculations of M. Mädler, if confirmed and accredited by other astronomers, lead to results of such an extraordinary and gigantic character as to throw other discoveries into comparative shade\*.

At home we have the observations already made by Lord Rosse's unequalled telescope, the continuation of the bright line of research pursued by our illustrious Faraday, and the remarkable discovery of a younger chemist, Mr. Grove, who I trust has still a long course of scientific glory to run. From the Polar region I hope also that the year 1846 may not have been unfruitful in important geographical discovery.

\* The discovery of the planet Astræa should also have been mentioned, though not pointed out by previous calculations like that indicated by M. Le Verrier.

In the sister sciences of Geology and Palæontology, the same year has seen issue to light one of the most important works that has appeared for a great length of time,—I mean the great work on the Geology of Russia, by which, assisted by the two companions of his travels, the President of the British Association, Sir Roderick Murchison, has crowned his Silurian labours.

In the department of palæontology we have also seen the commencement of the able and splendidly illustrated description of those extraordinary and gigantic extinct Mammalia, with which the liberality of Major Cautley has enriched our national collection at the British Museum. In the same department we have seen that which has been hitherto little more than the instrument of amusement, an amusement it is true well-worthy of a great naval people, I mean a yacht, converted into the means of adding largely to our knowledge of the marine zoology of the British seas. As President of the principal Scientific Society in England, I think it right to express the thanks of science to Mr. MacAndrew, for the liberality, of which Professor Edward Forbes has made such good use, and more especially for the example thus set to others. This, Gentlemen, is an instance among many that might be found, of the utility, for the purpose of extending science itself, of spreading even among those who do not absolutely pursue it themselves, the feeling of its real interest and importance. It is a proof that the rich and the powerful can, from time to time, advance knowledge by holding out a helping hand to its active cultivators.

Within a few days, Gentlemen, you have seen revived the ancient and time-honoured custom of the delivery of the Bakerian Lecture. I regret that this custom had slumbered for several years, and rejoice at the success which attended it in the able hands of Mr. Grove, aided no doubt by the very interesting nature of the communication which he had to make to us. I hope we shall not again suffer it to fall into desuetude.

It has occurred, Gentlemen, to myself and to your Council, that many of the Members of the Physiological Committee, owing to their imperative professional duties, have not their time so much at their own disposal as those of the other scientific committees. We have therefore thought it right to add to the numbers of the members of that particular committee, as it is evident that it is important that it should have a respectable attendance whenever it has to discharge the duties entrusted to its care.

In the financial statement that has been laid before you, you will see that the expenditure on our Transactions this year has been larger than for several years that have lately elapsed. The average expense for the last five years has been 750 pounds; for the last ten about a hundred a year more. For this year, including a volume of *Magnetical Observations* now in the press, it will amount to about £1400, of which however we have reason to expect that about £200 will be repaid to us by the Government. This will leave about £1200.

This, Gentlemen, is a large sum, and probably for some years it

may not be very materially less; I do not think however that this ought to be any matter of regret. If we have the means we cannot put them to a nobler use, or one more consonant to the wishes of our illustrious Founder.

Gentlemen, we must remember that, though we are a Royal Society, our true glory does not rest on our Royal Foundation, nor on Royal Patronage. Nor does it rest on the names of the illustrious nobles, of the eminent statesmen, or of those distinguished in art or literature who may have given lustre to the lists of our Members. Nor yet does it arise from the array of foreign philosophers, who have considered that it is a desirable reward of their discoveries to be Honorary Members of our body. Nor even does it rest on the great lights of science, either still burning, or extinguished in death, who belong, or who have belonged to our Society. No, Gentlemen, our true glory must be chiefly found in our scientific utility,—in the manner in which we have fulfilled our duties and promoted the objects of our Founders, and more especially must we look for our true title of honour in our Transactions.

I regret, Gentlemen, that it is not in my power to announce to you any definitive arrangement by which our Anniversary should be held at a more genial and convenient season of the year,—at a time when we might expect a larger concourse of our Members to witness the bestowal of our Medals, to listen to an account of those Fellows whose loss we have reason to deplore, to attend to the statement of our finances, and lastly, to take a part in the important constitutional duty of electing the Officers and Council for the ensuing year. This important object has not been absent from the thoughts and deliberations of your Council. In the course of those deliberations changes in the mode of electing Fellows, and other alterations have been suggested, requiring mature consideration and discussion. In consequence of these delays I have it not at this moment in my power to announce to you any definite arrangement.

Gentlemen, I am now arrived at the most agreeable part of my Presidential duty,—the pleasant task of acknowledging and conferring honorary rewards on scientific merit. I regret, Gentlemen, that in conferring one of these Medals on a distinguished foreigner, we are not to have present the discoverer of the new planet; I rejoice however that he is on this occasion to be represented by the son of another illustrious foreigner, the native subject however of our own Sovereign, and become an Englishman by his residence, and still more by his scientific discoveries in England, and himself the discoverer of one of the most distant of the sister worlds, who travel round the same fixed star as we do. It is an interesting fact to us on the present occasion that it is to the slight disturbance of the motion of the planet Herschel, that we owe our knowledge of the planet Le Verrier. From the courtesy due to a stranger, I am sure you will think me right, before bestowing the Medals on our own Faraday and Owen, that I summon to my side the representative of Le Verrier.

SIR JOHN HERSCHEL,

I have great pleasure in committing to your charge this Medal, which has been awarded by the Council of the Royal Society to M. Le Verrier. It is well-deserved by the genius that foresaw the result, and the persevering calculations that enabled M. Le Verrier to predict the exact quarter of the heavens where a new planet must pursue its course in obedience to those general laws by which the Almighty governs the universe. There M. Gall's telescope enabled him to verify the calculations of the young French astronomer, and other observers have since witnessed the existence of this new member of the solar system. Astronomy does not merely owe to M. Le Verrier the knowledge of this new companion of those planets who were known to man already, but it also owes to him a bright confirmation of the truth of the Newtonian theory itself,—a confirmation that must speak convincingly to the most sceptical and the most ignorant, if indeed in this case there be any other scepticism than that of ignorance.

I will not deny that it would have been very agreeable to me to have given this Medal to an Englishman: but if the English science that, unknown to M. Le Verrier, had nearly caught the prize, was not quite in time to do so, if I say this discovery was not made by a countryman of Newton, I cannot grudge it to one of the same nation that has produced a Laplace and an Arago. I wish to M. Le Verrier every success in his scientific pursuits. I rejoice in the honour that a grateful country has bestowed upon him, and I trust that between his country and my own there may be no other contest than a generous emulation to surpass each other in the great achievements of peace, and in the cultivation of art, literature and science.

MR. FARADAY,

It is an unusual honour that I have to announce to you to-day, and it is with unusual pleasure that I do so.

The Council of the Royal Society has adjudged to you two Medals, at the same time, for your late brilliant discoveries in the universal action of electricity and galvanism. If, however, the honour be unusual, such a long-continued sequence of scientific discovery, such a stream of electrical light, thrown as it were on the dark places of science by the genius and persevering energy of one man, is still more singular. It is my agreeable duty to add, that in presenting you these Medals, I consider that I do so to one to whom English science, and most especially the Royal Society, lies under the deepest obligations. The Royal Society was itself founded for the more extended and more accurate cultivation of natural knowledge, and while it can boast in its Transactions of such papers as those for which it is indebted to you, its prosperity must be regarded as established on the surest basis.

Mr. OWEN,

It gives me great satisfaction to announce that the Council has awarded one of the Royal Medals to you for your very excellent paper on the Belemnite. It is a communication of the highest interest, at the same time to the geologist and the palæontologist. It describes and explains the nature of an extinct animal, one portion of whose frame is found largely existing in different strata, while very slight indications of the remainder of its structure had been known to the world till a very recent period. It adds to our satisfaction, as an English Society, that the ample account of this animal, given to us by your anatomical skill and experience, is derived from remarkable specimens, hitherto at least found in England alone. Their discovery has been owing to the formation of the Great Western Railway. In this instance, therefore, and probably in many future ones, this gigantic instrument, the child of modern engineering genius, is not only the means of rapid locomotion to the traveller, but also carries forward with accelerated speed the progress of physical science itself.

I trust, Mr. Owen, that the Royal Society will have many future occasions for gratitude to you for interesting additions to the Philosophical Transactions.

I now proceed to the biographical notices of some of our deceased Members.

JOHN BOSTOCK, M.D., has long occupied a distinguished station among the zealous cultivators of Animal Chemistry, Physiology, and other branches of Medical Science. His father had been established as physician at Liverpool, and from his great talents would probably have risen to considerable eminence, had not these brilliant prospects been doomed to sudden extinction by an untimely death, before he had attained the age of thirty. He left an only child, the subject of the present notice, who was born in 1774, the year preceding that fatal event, and whose early education was conducted at the New College at Hackney, at the time when Dr. Priestley was delivering lectures on chemistry. Having imbibed, under such able tuition, an ardent love of science, young Bostock was led to make choice of medicine as his profession. He studied at Edinburgh, where he graduated in the year 1798, and soon afterwards commenced practice in his native town. The activity of his mind was there displayed, not only in numerous contributions to most of the medical and scientific journals, but also in the prominent part which he took in planning and establishing various charitable, scientific and literary institutions, and more particularly the Fever Hospital, and the Botanic Garden; and also the Philosophical and Literary Institution of Liverpool, where, in the capacity of Professor of Physiology, he delivered the first course of lectures there given.

Having secured a competent fortune, Dr. Bostock determined, in 1817, to relinquish his profession and fix his residence in London, where he could possess more extensive means of prosecuting his

favourite studies, and enjoy a more enlarged society of scientific friends. He soon became an associate of most of the scientific societies of the metropolis, and an active labourer in their management. In 1818, he was elected a Fellow of the Royal Society; was several times placed on its Councils, and in 1832, filled the office of Vice-President. He was for some years Secretary of the Geological Society, and in 1826 was appointed its President. He long held the office of Treasurer of the Medical and Chirurgical Society, and took an active share in the management of the Fever Hospital, not only as a member of its Committee, but also as one of its House Directors. He was also, during a long period, one of the lecturers on Chemistry at the Medical School of Guy's Hospital, being appointed to that office on the death of his friend Dr. Marcet, in 1822.

Amidst these multiplied public avocations, he found leisure for the accomplishment of a great variety of literary and scientific labours, the aggregate amount of which would appear astonishing to any one who was not acquainted with his methodical habits, his persevering industry, and his advantageous employment of every portion of his time. His contributions to medical and scientific journals, transactions of societies and cyclopædias, amount to no less than sixty-nine; of which twenty are contained in Nicholson's Journal and Annals of Philosophy, eighteen in the Medico-Chirurgical Transactions, and twelve in the Cyclopædias of Practical Medicine, and of Anatomy and Physiology. Only one paper by him appears in the Philosophical Transactions (in 1829), namely, that "On the spontaneous purification of the Thames Water," recording the observations he made in the course of some analyses which he undertook at the request of the Commissioners appointed by the Crown to inquire into the supply of water to the metropolis.

Some of the more finished papers and essays which had appeared in these works, were afterwards republished by him in a separate form. Among these are his "Account of the History and present state of Galvanism," originally published in Brewster's Cyclopædia, and which appeared in 1818; and his "History of Medicine," which had been prefixed to the Cyclopædia of Practical Medicine. One of his earliest publications was an "Essay on Respiration;" his attachment to chemical pursuits having naturally led him to the particular study of this part of the animal economy. At a later period, he engaged in the compilation of a general work, embracing the whole subject of physiology, which he completed in three volumes, the last of which appeared in 1827, under the title of "Elementary System of Physiology;" the third and last edition, published in 1837, comprised the whole in one thick octavo volume of nearly 900 pages. It is a work of immense labour and research, containing condensed and elaborate analyses of all that had at that time been published, both as to facts and theories in the wide field of physiology. It constitutes, in fact, an Encyclopædia of this department of medical science, where the student will find indicated, with scrupulous exactness, the authorities for every statement, and the sources which may supply him with whatever further information he might require



on any particular subject. After he had completed this work, he projected a new translation of Pliny's "Natural History," to be accompanied with notes; in 1828 he printed, for private distribution, a specimen of the work, consisting of the first and thirty-third books; and he afterwards devoted a considerable portion of his time to the prosecution of this undertaking, in which he had made some progress at the time of his death. For the last two or three years his health had been declining, but the immediate cause of his death was an attack of cholera, which proved fatal on the 6th of August in the present year.

Respected and beloved by a wide circle of friends and relatives, his memory will long be cherished with affection by those who survive, and with gratitude by the votaries of those sciences which his labours have promoted and enriched.

JOHN CONSTANTINE CARPUE, who died in the beginning of the present year, at the advanced age of eighty-two, was, during a long period of his life, a distinguished teacher of Anatomy and Surgery. His family had originally been Spanish, and attached to the Roman Catholic Church. He himself was intended for the priesthood, and with that view received the elements of his education at the Jesuits' College at Douay. A youthful eagerness to see the world prompted him, at the age of eighteen, to traverse the continent on foot, in various directions, remaining much in France, where he had ample opportunities of observing the state of society both before and after the Revolution, and of being an eye-witness of many of the memorable scenes that occurred in Paris during the most critical epochs of that eventful period. To the early impressions thus received, may probably be traced the peculiar bent of his mind, which led him, in after life, to engage largely in the political discussions of his own country; and also his keen relish for travel, and especially for pedestrian expeditions, in which, on his return to England, he often indulged; at times rambling over Wales, or the Highlands of Scotland; and in later years, accomplishing, with his family, extensive tours through various parts of Europe.

He was long undecided in his plans of life. After he had renounced the priesthood, he looked forward to succeed in the business of a bookseller, his uncle, Mr. Lewis, who carried on that trade in Great Russell Street, Covent Garden. He subsequently directed his views to the law, and was preparing to embark in this new career, when he was suddenly smitten with admiration for Shakespear, and resolved to devote himself to the stage. But his passion for acting having cooled, he finally determined to adopt the profession of Surgery; and for that purpose commenced his medical studies at St. George's Hospital, in which institution he served for some time as House-Surgeon. He afterwards received the appointment of Staff-Surgeon to the York Hospital at Chelsea, where he remained twelve years; at the end of which period he retired from this military duty, being apprehensive of being ordered on foreign service; and was immediately elected, in conjunction with Mr. Pearson, Surgeon to the

National Vaccine Institution, an office which he held during the remainder of his life.

The accidental circumstance of his being requested by a pupil of the York Hospital to assist him in acquiring a knowledge of anatomy, and of that pupil making rapid progress under his tuition, suggested to him the idea of setting up as an anatomical lecturer. His success as a teacher in that department far exceeded his most sanguine expectations ; and his original mode, and impressive style of instruction, soon procured him overflowing audiences. Every year he delivered three courses of daily lectures, which courses succeeded each other with no other intermission than a few days during the summer season. For a period of thirty-four years he pursued this laborious career, which, as may easily be conceived, afforded him scarcely any leisure for literary pursuits. He has, however, left behind him a few professional works. In 1801 he published a "Description of the Muscles of the Human Body ;" in 1803, "An Introduction to Electricity and Galvanism, with cases showing their effects in the cure of Disease ;" in 1816, "An Account of two successful operations for restoring a lost Nose," &c., and in 1819, "The History of the High Operation for the Stone."

Endowed by nature with a robust constitution, his life would probably have been prolonged for many years, had he not, while in travelling with his family, met with a disastrous accident, which proved immediately fatal to two of his servants. The severe injuries he received on that occasion gave a shock to his constitution from which it never entirely recovered, and on the 30th of January 1846, he eventually sunk under repeated attacks of bronchitis. In private life he was endeared to his family and friends by the strongest ties of affection, and he was eminently gifted with the happy art of winning the confidence and attachment of his pupils.

We have to lament the death of HENRY GALLY KNIGHT, Esq., whose high cultivation of mind and fine feeling for the beauties of painting, sculpture and architecture, so well entitled him to be called an accomplished English gentleman, and whose valuable architectural works have done such good service to the study of our mediæval architecture. He was educated at Eton ; thence he went to Trinity College, Cambridge, a little before the time of Byron's admission at the same College. Their acquaintance began here, and was renewed in 1810, when Mr. Knight, in company with the Hon. Frederic North and Mr. Fazakerly, visited the most interesting provinces of the Turkish empire. The observations and impressions of their travels, he clothed in the form of *Eastern Tales*, under the titles of *Ilderim*, in four Cantos ; *Phrosyne*, a Grecian tale ; and *Alarhtar*, an Arabian tale. They do not appear to have attracted very general attention at the time, though of one, which Mr. Murray sent in manuscript to Lord Byron, without however communicating the name of the author, his Lordship decreed, "There are many beautiful passages in the tale you sent me, and an interesting story. It must have been written by some one who had been on the spot, and I wish him, and

he deserves success." Subsequently these tales passed through four editions.

Mr. Knight many years afterwards published a dramatic poem entitled "*Hannibal in Bithynia*," conceived, he tells us, many years before at Brusa. Fortunately, however, its author soon discovered that towards History and Architectural Archæology was his true vocation. In 1831, he landed at Dieppe, and then began his tour in Normandy, having engaged as his companion Mr. Richard Hussey, an architect by profession, that he might, to use his own words, "have the assistance of a practised eye to examine the construction of the buildings and a practised hand to delineate their outline." The result was a small octavo volume with plates, called "*An Architectural Tour in Normandy*," a work of considerable research and great nicety of observation, and so highly approved in France as to be translated into the French language. His next publication was "*The Normans in Sicily*," a kind of historical sequel to his Architectural Tour, and, like it, accomplished with an architect by his side, and distinguished by diligent endeavours to arrive at truth. "*Ecclesiastical Architecture of Italy, from the time of Constantine to the fifteenth century*," followed; a splendid work in two vols. royal folio, containing eighty-one litho-chromatic plates by Mr. Owen Jones, and prefaced by a clever introduction from Mr. Knight's pen, and probably the work on which his fame will rest. He lived to publish no other, but the love of his favourite study remained with him to the last; for at the time of his decease he was busy with a new work on architecture. Mr. Knight was elected a Fellow of the Royal Society in 1841; he was one of the Commissioners on the Fine Arts; and represented North Nottinghamshire in Parliament since 1834. He expired on the 9th of February, aged fifty-nine, at his residence in Lower Grosvenor Street.

In the death of *HONORATUS LEIGH THOMAS, Esq.*, the Royal Society, as well as the Royal College of Surgeons, have to deplore the loss of one of their oldest members.

Mr. Thomas was one of the few remaining pupils of the celebrated Mr. John Hunter, from whom he imbibed habits of assiduity, zeal and industry, which characterized him through a long and arduous professional career. The department of surgery having been chosen as his profession, he became early associated with Mr. Hunter as his dresser at St. George's Hospital, and through his recommendation was afterwards appointed assistant-surgeon to accompany Lord Macartney on his important embassy to China in 1792. The voyage was replete with interest, and proved most creditable to the medical staff, whose services were highly estimated, not only by members of the embassy and the ship's company, but also by the troops quartered at Chusan, to whom at a critical juncture most active assistance had been rendered.

On the return of the embassy to this country an expedition was fitting out against Holland, and Mr. Thomas's tender of services to accompany the army was accepted. During the arduous duties

which attended this ill-fated campaign, many of the wounded fell into the hands of the enemy and were made prisoners of war. Here the disinterested magnanimity of the young volunteer was exhibited in his request to be allowed to remain to attend upon the sick and wounded. This laudable determination subjected him to exertions and labours of no ordinary kind, his services not only being rendered available, in the most active sense, to his own countrymen, but to the enemy also. Restored to his own country, Mr. Thomas became associated with Mr. Cruikshank in 1799, at the School of Anatomy in Windmill-street, where he gained great credit as demonstrator. About this time he had the honour conferred upon him of being elected a Fellow of the Royal Society, and became a contributor to its Transactions.

As connected with the Royal College of Surgeons, Mr. Thomas was admitted into the Council, and for many years was one of the Court of Examiners, an office which he retained to the period of his retiring from practice. In this situation he displayed his innate kindness of heart, by his encouraging method of examining, which tended greatly to dissipate the nervous diffidence of those presenting themselves before this searching tribunal. In the usual routine, Mr. Thomas served the office of President, and delivered the Hunterian Oration on the 14th February, 1827. For some years the disease of stone in the bladder had proved a serious interruption to Mr. Thomas's comfort, and at the age of sixty-five became so intolerable that his professional friends acceded to his suggestion of undergoing the then new and ingenious method of *crushing*, which was accomplished in their presence, most skilfully, by the Baron Heurtaloup, and with the happiest result; a calculus, of very considerable size, having been pulverized and effectually removed with comparatively little or no pain. This proved instrumental to renewed constitutional vigour and enjoyment to the age of seventy-five, when suspicious indications of a renewal of calculous formation created alarm, and determined Mr. Thomas to seek repose by retiring from professional anxiety, and on this occasion he received the thanks of the Council of the Royal College of Surgeons of England for his long and efficient services.

Mr. Thomas's retirement enabled him to enjoy domestic society, although suffering from gradually increasing infirmities, which led to the termination of his valuable life at the age of seventy-seven.

The reflection of having passed an active life in a profession and in a position which allowed of administering to the comforts and of meliorating the condition of suffering humanity, proved, in the instance before us, a soothing balm to the departing spirit.

JOHN THOMSON, M.D., one of the ablest representatives of the last generation of medical men, was Professor of General Pathology in the University of Edinburgh, and died on the 11th of October last, at his residence in the vicinity of that city, at the advanced age of eighty-two years.

He was born in the town of Paisley in Renfrewshire, and in over-

coming the impediments of an humble station, of straitened circumstances, and of a defective education, he early exhibited those vigorous intellectual powers which were afterwards so successfully exerted in the acquirement of information and the promotion of science. His innate love of knowledge soon became apparent by the strenuous application of his mind, in succession, to various important objects of scientific interest. While yet a youth, and during the short intervals of leisure, stolen from the servile drudgery of a medical apprenticeship in his native town, he devoted himself with such energy and success to the study of Botany, as ever after to retain a lively interest in that pursuit. Having completed his medical education in the Universities of Glasgow and Edinburgh, and in the medical schools of London, he settled, in the concluding years of the century, as a general practitioner in Edinburgh. He there delivered lectures on Chemistry, and published a translation of Fourcroy's Elements of that science, accompanied with valuable notes.

Being appointed one of the Surgeons of the Royal Infirmary in the year 1800, he commenced his labours as a Teacher of Surgery, and on the institution, at his recommendation, of a Professorship of Surgery in the Royal College of Surgeons, he was appointed to that office. It was on his representation that the injurious system which then prevailed, of changing the surgeons at short intervals, was abandoned, and the tenure of that office rendered one of reasonable duration; and that the delivery of Clinical lectures by the surgeons in office, of all modes of instruction the most valuable, was commenced. To his counsel the College of Surgeons were indebted for the foundation of a Museum of Anatomy, both healthy and morbid, which, enriched as it has since been by many valuable collections, now ranks second only to that of the Royal College of Surgeons of England.

For a period of sixteen years Mr. Thomson delivered the lectures on Surgery in the Hall of the College to crowded auditories of students and practitioners. In the year 1806 he was appointed by the crown Professor of Military Surgery in the University of Edinburgh, a chair which had been newly created by the government of that period.

The publication on which his permanent reputation rests bears the title of "Lectures on Inflammation." It appeared in 1813, and was in effect a revival and masterly exposition of the views and doctrines of John Hunter, which, partly from a deficiency of perspicuity in that great man's style, and partly from the small degree of attention which they had excited among the profession, had never before obtained their due influence, nor had their truths been sufficiently recognised and established. It is a work which exhibits the results of acute discrimination, unwearied ardour, persevering research, and a clear and careful method of argumentation. It has been translated into many foreign European languages, and speedily became the standard authority on that important subject, constituting as it does the basis of all Pathology.

On the death of Dr. Gregory in 1821, Dr. Thomson resigned his

surgical appointments, and having formerly graduated at King's College, Aberdeen, now joined the College of Physicians and practised as consulting physician, commencing at the same time a course of lectures on the practice of physic. This may be regarded as the second remarkable period of his professional career. The novel and distinguishing feature of this course of lectures consisted in its being founded on pathological anatomy, or the structural changes induced by disease in the several tissues of the body, as auxiliary to the ancient system of pure symptomatology. To accomplish this object in the most effectual manner, Dr. Thomson had recourse to the aid of the draughtsman, and presented to the eye of the student accurate coloured delineations of morbid appearances, arranged on anatomico-physiological principles, and accompanied by their corresponding histories. The result of this spirited enterprise, prosecuted both abroad and at home during a period of several years, and at a very considerable pecuniary sacrifice, has been a splendid collection of anatomical drawings, surpassing all others at present existing in richness and extent.

In 1832, a Chair of General Pathology was added to the University of Edinburgh, to which endowment the suggestions and the evidence of Dr. Thomson before a commission appointed by Lord Liverpool's government in 1826, materially contributed. The appointment of first professor was conferred upon himself; but the pressure of advanced years and infirm health unfortunately compelled his retirement after he had held it for four years.

At various times Dr. Thomson visited the British metropolis and the continent of Europe, chiefly for the purpose of personally examining their pathological collections; and after the battle of Waterloo he repaired to Brussels, in order to avail himself of the advantages which were afforded on that occasion of examining the nature and treatment of gun-shot wounds and field injuries. The result of his observations he shortly afterwards published in a "Report of the wounded at Waterloo."

To Dr. Thomson's spirit of independence, not less than to his ardent love of knowledge, the school of Edinburgh is specially indebted; for in addition to his active exertions in the foundation of Professorships, of a museum and of a library, and the establishment of a dispensary for visiting the poor in their own dwellings, he was ever watchful of its interests, and as fearless in denouncing usages which he considered prejudicial as he was prompt in suggesting and earnest in promoting beneficial changes and reforms. To the jealousies which are ever engendered by merit, and by attempts at reform, and to the opposition he encountered from the magisterial authorities of the city, may be ascribed his failure of success when a candidate for the vacant chair of Dr. Gregory, although he was supported by overwhelming testimonials of superior claims from the most eminent medical men throughout Europe; and the same cause, together with the liberal bias of his political views and opinions, (for though he did not obtrude he never sought to conceal them) will also explain the anomaly, that although no professional opinion

was more highly esteemed than his, yet he never attained to extraordinary popularity in practice. Some of the prejudices he had to contend against were the fruits of his scrupulous honesty, of the simplicity of his mind and manners, and of his hostility to every species of professional charlatanism in whatever quarter it was displayed. It can excite no surprise that he stood high in the estimation of his many celebrated contemporaries of the Scottish metropolis, and that he should have enjoyed a cordial and continued intimacy with such men as Stewart, Allen and Mackintosh. Associated with the projectors of the Edinburgh Review, he was a contributor to some of the early numbers, of articles connected with medical philosophy. In other researches of science not strictly professional, Dr. Thomson evinced an erudition of greater extent and profundity than could have been attained by any individual not possessing his quickness of apprehension and unquenchable thirst for knowledge.

The profession at large are perhaps scarcely aware of the extent of their obligations to Dr. Thomson. Some however yet survive who can attest the peculiar interest he inspired in his pupils by his earnestness as a teacher, and the enthusiasm they imbibed from his precepts and cherished by his example. Unostentatious in his search after truth, he was neither so frequent or voluminous an avowed contributor to the common stock, as many men of much inferior talent; but he was continually engaged in fostering the spirit and directing the pursuits of others, of whom some have largely contributed, in their riper years, to extend the boundaries of medical and surgical knowledge.

The biography of Dr. Cullen, whose character he held in high veneration, occupied the years of his retirement. The vigour of his faculties remained unimpaired to the last, and he contemplated with calm serenity the approaching end of a life devoted to the cultivation and improvement of the profession he had chosen, and of which he was a distinguished ornament.

Astronomy has sustained a heavy loss, in the last year, by the death of BESSEL. FRIEDRICH WILHELM BESSEL was born at Minden, on the 22nd of July 1784. His father held a civil office under the Prussian government, with the title of *Justizrath*, but his means were narrow and his family numerous; and at the age of fifteen the future astronomer began his career as an assistant or apprentice in a mercantile house in Bremen. Having acquired a taste for Astronomy and Mathematics, he assiduously devoted his leisure time to the study of those sciences; and his progress was such that he soon attracted the notice and obtained the friendship of Dr. Olbers, then in the zenith of his fame. His first published essay, which appeared in Zach's '*Monatliche Correspondenz*' in 1804, was a reduction of the observations made by Harriot and Torporley of the comet of 1607. In communicating this paper to Zach, Olbers eulogised, in the warmest terms, the acquirements and industry of his young friend, and expressed his regret that so much talent and zeal, and such powers of calculation, should not have

been acquired for the exclusive service of astronomy. An opportunity was soon found of making the desired acquisition; Bessel, in 1806, becoming successor to Harding in the office of assistant to Schroeter, in the Observatory of Lilienthal. In this congenial situation he rapidly acquired for himself a great reputation; and, indeed, almost from the first, took his place as one of the best astronomers of Europe. In 1810, he was appointed professor of astronomy in Königsberg; a post which he occupied during the remainder of his life, and over which his genius and labours have thrown an imperishable lustre.

The Observatory of Königsberg, now so celebrated, owes not only its celebrity, but its existence to Bessel. The building was begun in 1811 under his direction. It was finished in 1813; and the first published observations are dated in November of the same year. From 1815 the observations have been published regularly; accompanied by full descriptions of the different instruments successively employed, the elements of reduction, some valuable catalogues, and all the information necessary to inspire complete confidence in the results. This publication has exercised a powerful influence on the progress of practical astronomy.

Bessel's scientific life is one of extraordinary fertility, and it is only a few of the more important of his productions which can even be alluded to in this brief notice. His principal work, the '*Fundamenta Astronomiæ*,' is peculiarly interesting to English astronomers, from the circumstance of its being founded on observations made at the Royal Observatory at Greenwich. Bradley's observations, as is well known, were taken possession of by his representatives, and presented by them to the University of Oxford. From various causes, their publication was not completed until 1805, forty-three years after the death of Bradley; and although some results and some imperfect catalogues had been deduced from them, the great mass of the observations still remained in a state in which they were nearly useless. At the instigation of Olbers, Bessel undertook the formidable task of reducing the whole series. The reduction was commenced in the autumn of 1807, and, though frequently interrupted by his other avocations and duties, it was never wholly laid aside till its completion in 1818, in which year the '*Fundamenta*' made its appearance. Of this great work it would be difficult to speak in terms of too high praise. Besides elaborate determinations of all the principal elements of the reduction,—the errors of the instruments, the height of the pole, refraction, parallax, aberration, precession, proper motion,—it contains a catalogue of the mean places of 3222 fixed stars, observed between 1750 and 1762 with the best instruments in existence at that time; and reduced to the epoch of 1755 with a precision and accuracy of which there was no previous example. It now furnishes astronomers with the best existing means of determining all those data which can only be deduced from a comparison of observations made at considerably distant intervals of time, and may be considered, in fact, as



having laid the foundations of the principal improvements which have been made in astronomy since the date of its publication.

The 'Tabulæ Regiomontanæ,' published in 1830, may be regarded in some respects as a supplement to the 'Fundamenta.' This collection was undertaken with a view to facilitate the reduction of planetary observations, past and future, on a uniform system; and it contains all the tables necessary for that purpose as well as for ordinary star-reduction, for the century to which it applies, founded on elements derived from the comparison of Bradley's with Bessel's own observations, together with the formulæ for computation. It is in daily use in every observatory, and has led to the general adoption of a uniform and precise system of astronomical calculation which has been attended with signal advantage to the science.

The services rendered to astronomy by Bessel were not confined to the observatory and the closet. In the course of a series of experiments, undertaken in 1826, for the determination of the length of the seconds' pendulum, he detected and demonstrated the existence of a cause of error in the usual reduction to a vacuum, which, though it had long before been clearly pointed out by Du Buat, appears to have been entirely overlooked and forgotten. This consists in the fact that every oscillating body *drags* along with it a certain portion of air, or of the fluid in which it moves, so that the specific gravity of the actually moving mass is different from that of the body at rest; and as the quantity of *dragged* air depends on the form of the moving body, the specific gravity cannot be determined *à priori*, but must be found by experiment for each particular pendulum. It followed, therefore, that the results of all the previous pendulum experiments were erroneous to the extent occasioned by the neglect of this circumstance. Bessel's method of conducting the experiment was extremely ingenious; and it may be asserted that his determination of this important astronomical element—the absolute length of the seconds' pendulum—is the only one yet given which is deserving of full confidence. The details and results were published in the Berlin Memoirs in 1828.

Another very important result of the indefatigable activity of Bessel, is the 'Gradmessung in Ost-Preussen,' published in 1838. A series of geodetical measurements, comprehending the measure of an arc of the meridian of the Dorpat Observatory, had been executed by Struve and Von Tenner in Russia, and it was of great importance, in reference to the question of the figure of the earth, to connect them with those of the west and south of Europe. The operations necessary for this purpose were undertaken by the Prussian government in 1830, and executed under the direction of Bessel, who seized on the opportunity of measuring an arc of the meridian of his Observatory. In consequence of the novel methods employed both in the geodetical and astronomical parts of this operation the details are of extreme interest, more particularly with reference to the ingenious apparatus for measuring the base line, the mode of observing and connecting the terrestrial angles, and the application

of a method of computation by which every geometrical relation subsisting among the angles over the whole triangulated surface is expressed by equations of condition, and the results, with their probable errors, deduced by the method of least squares. The 'Grad-messung' may be described as having done for geodesy what the 'Fundamenta' did for astronomy; both works exhibiting the application of the best and surest methods of deducing results from observations which science has yet placed within the reach of the computer.

Several of his minor papers on the subject of geodesy, published in the 'Astronomische Nachrichten,' are of great interest and value. He recomputed the French triangulation between Montjoux and Formentera (No. 438), and the sector observations of the English and Indian arcs measured by Mudge and Lambton (334, 336); and from the whole of the meridional arcs hitherto measured with admissible precision, deduced elements of the terrestrial spheroid which give probably the nearest approximation which has yet been made to the true form and magnitude of the earth.

In connexion with the measurement of the pendulum and arc of meridian, he also undertook a comparison of the standard measures of Prussia; determined their relation to the unit of the French measures; and directed the execution of a new standard which will probably become an object of great interest in some future age. The details of these delicate and difficult comparisons are described by him in an interesting work published by order of the Prussian government in 1839.

The question of the annual parallax of the fixed stars,—a vexed question in astronomy since the days of Bradley,—has of late years acquired an extraordinary interest through the labours of Struve, Henderson, and Bessel. Having previously made some unsuccessful attempts, Bessel at length determined to attack the problem in a new way, and to subject one individual star to a scrutiny which would infallibly decide whether any appreciable parallax existed in that particular case. The star which he selected was 61 *Cygni*, a binary system whose two members had been proved to be physically connected, and which, by reason of the very considerable distance between the component bodies, and its large proper motion, afforded strong presumptions of its being one of the nearest to the earth. With the splendid heliometer of the Königsberg Observatory, an instrument peculiarly adapted for such a purpose, he commenced a series of micrometrical measurements of the distances of the star from two others in its vicinity, which were continued from August 1837 to March 1840, and conducted with all the appliances and precautions for attaining extreme accuracy which were to be expected from the importance of the inquiry and the consummate skill of the observer. The results exhibited a periodic and systematic fluctuation of the places of the double star, agreeing exactly in its law and period with the effects of parallax, and referable to no other known cause. The parallax thus indicated was indeed an extremely minute quantity, amounting only to 31-100ths of a second; but no one in a condition

to appreciate the evidence on which it rests will doubt the possibility of detecting such a quantity by such means; and astronomers, accordingly, regard the conclusion as one which, if not absolutely certain, is at least so extremely probable, that it must command assent until disproved by another equally good, and longer continued, series of observations.

The fruits of the extreme precision which Bessel so greatly contributed to introduce into astronomical observations and reductions, have already begun to make their appearance. In an interesting disquisition published in some recent numbers of the '*Astronomische Nachrichten*' (514, 515, 516), he seems to have established the existence of a very remarkable phenomenon which had been indicated, at different times, by Pond, namely, the variability of the proper motion of two of the principal stars, *Procyon* and *Sirius*. It is unnecessary to point to the boundless field of speculation respecting the constitution of the sidereal heavens which such a discovery lays open.

The annals of astronomy afford many illustrious examples of indefatigable industry and prolific labour, but few more remarkable than Bessel. From the date of his first publication in 1804, the astronomical periodicals of Germany teem with his productions. Zach's '*Monatliche Correspondenz*,' Lindenau's '*Zeitschrift*,' Bode's '*Jahrbuch*,' the '*Berlin Ephemeris*,' the '*Memoirs of the Berlin Academy*,' and, more especially, Schumacher's '*Astronomische Nachrichten*,' have all been enriched by his communications. The last-named journal, indeed, contains upwards of 180 bearing his signature, embracing almost every subject connected with the science and practice of astronomy, and questions of every order of difficulty. Some of his papers in the '*Berlin Memoirs*' are extremely remarkable, not only by reason of the results arrived at, but as showing the resources and originality of the author, and his skill in the highest departments of analysis and physical astronomy. Among these may be mentioned, in particular, his researches on the great comet of 1807 (published in 1810), in which he proposed a method, which is now generally followed, of determining the orbit when it is necessary to take the perturbations into account; a most important memoir on the precession of the equinoxes (1815); another on the planetary perturbations (1824); and three on the right ascensions of Maskelyne's 36 stars (1818, 1819, 1825). Among his later productions are two quarto volumes of '*Untersuchungen*' (or *Astronomical Researches*), and a third is said to have been nearly prepared for the press. Many other titles might be cited, but those now mentioned may suffice to give an idea of the wide extent over which he ranged. Indeed it may be said of Bessel, that there is no department of astronomy which he did not handle, and that nothing passed through his hands without receiving extension or improvement. But, perhaps, that which stands out as most remarkable in his writings is his profound knowledge of the theory of instruments; and perhaps also the influence of his example in teaching observers to trust less to the mechanical perfection of instruments, and to bestow more pains in

determining their errors so as to remove them by numerical corrections, have contributed as much to the advancement of astronomical science as his own proper labours and discoveries. His countrymen adopted his methods as the models of their practice; the present state of German astronomy shows with how much advantage.

Bessel was elected a Foreign Member of this Society in 1825. He died at Königsberg on the 17th of March 1846, after a long and painful illness occasioned by an internal disease. The history of his labours will occupy a large and prominent place in the history of astronomy during the first half of the present century.

The BARON DE DAMOISEAU was one of the most distinguished astronomers of the age. His most considerable work was his "*Mémoire sur la Théorie de la Lune*," which was presented to the Institute in 1821, but not published before 1827, when it appeared in the "*Mémoires des Savans Etrangers*." The methods which are used in this important memoir are, generally speaking, the same as those adopted by Laplace: the moon's true longitude being assumed as the independent variable, and the final equations solved by the method of indeterminate coefficients; the solutions being given in numerical and not in literal coefficients, as in the great work of Plana on the same subject. The approximations, also, are carried to a greater extent than in the "*Mécanique Céleste*." This memoir was followed by the celebrated "*Tables of the Moon*," which were founded upon it, and which appeared in 1824 under the title "*Tables de la Lune, formée sur la seule Théorie de l'Attraction et suivant la division du cercle en 400 degrés*." They form the first, and indeed the only expanded tables of the moon which are founded entirely upon theory, borrowing nothing whatever from observation but the simple elliptic elements, the proportion of distances of the sun and moon, and the masses. All preceding tables, such as Mayer's, Borg's and Burckhardt's, had derived many of their coefficients empirically from observation. These tables are the basis of those which are used by the present Astronomer Royal in the great lunar reductions which are now in progress under his superintendence.

The Baron de Damoiseau was also the author of "*Tables of the Satellites of Jupiter*," and of many other works and memoirs connected with the advancement of astronomical science: he was a very profound analyst, a most laborious and faithful calculator, and the author of the most important advancements which the lunar theory received in the period which intervened between the appearance of the great works of Laplace and Plana to which I have before referred.

Upon the motion of Sir Robert Harry Inglis, Bart., the thanks of the Meeting were given to the President for his Address, with a request that he would allow it to be printed.

The Statutes relating to the election of Council and Officers having been read by the Secretary, and Major Clerke and Robert

Hunter, Esq. having, with the consent of the Society, been nominated Scrutators to assist the Secretaries in examining the lists, the votes of the Fellows present were collected.

Major Clerke reported the following Gentlemen as being duly elected Officers and Council for the ensuing year, viz.—

*President.*—The Marquis of Northampton.

*Treasurer.*—George Rennie, Esq.

*Secretaries.* { Peter Mark Roget, M.D.  
                  { Samuel Hunter Christie, Esq., M.A.

*Foreign Secretary.*—Lieut.-Col. Edward Sabine, R.A.

*Other Members of the Council.*—William Thomas Brande, Esq.; Samuel Cooper, Esq.; Charles Daubeny, M.D.; Sir Henry De la Beche; Edward Forbes, Esq.; Thomas Galloway, Esq., M.A.; William Robert Grove, Esq., M.A.; William Hopkins, Esq., M.A.; Leonard Horner, Esq.; John Ayrton Paris, M.D.; George Richardson Porter, Esq.; Rev. Baden Powell, M.A.; Sir John Richardson, M.D.; William Henry Smyth, Capt. R.N.; Lieut.-Col. Sykes; Charles Wheatstone, Esq.

The thanks of the Society were given to the Scrutators for their trouble in examining the lists.

The following is a statement of the Receipts and Expenditure during the past year:—

*Statement of the Receipts and Payments of the Royal Society between  
Nov. 29, 1845, and Nov. 29, 1846.*

RECEIPTS.

	£	s.	d.
Balance in the hands of the Treasurer at the last Audit ..	2076	11	10
Weekly Contributions, at one shilling .....	52	0	0
Quarterly Contributions at £1 .....	1022	0	0
	<hr/>	1074	0 0
25 Admission Fees .....	250	0	0
4 Compositions for Annual Payments at £40 .....	160	0	0
2 Compositions for Annual Payments at £60 .....	120	0	0
One year's rent of estate at Mablethorpe: due at Michaelmas 1845 .....	125	0	0
Two years' Income Tax .....	7	6	0
	<hr/>	117	14 0
Carried forward.....	3798	5	10

	£	s.	d.
Brought forward.....	3798	5	10
One year's Fee farm rent of lands in Sussex: due at Michaelmas 1846 .....	19	4	0
One-fifth of the clear rent of an estate at Lambeth Hill, from the Royal College of Physicians, in pursuance of Lady Sadleir's will: due at Midsummer 1846 .....	3	0	0
<b>Dividends on Stock:—</b>			
One year's dividend on £14,000 Reduced 3 per cent. Annuities .....	420	0	0
Less Income Tax .....	12	5	0
	407	15	0
One year's dividend on £2000 3 per cent. Consols .....	60	0	0
Less Income Tax .....	1	15	0
	58	5	0
Half year's dividend on £1000 3 per cent. Consols .....	15	6	0
Less Income Tax .....	0	8	9
	14	11	3
One year's dividend on 345 <i>2</i> l. 1 <i>s.</i> 1 <i>d.</i> Consols, the produce of the sale of the premises in Coleman-street .....	103	11	2
Less Income Tax .....	3	0	4
	100	10	10
One year's dividend on £200 Consols ....	6	0	0
Less Income Tax .....	0	3	6
	5	16	6
<i>Donation Fund.</i>			
One year's dividend on £4843 14 <i>s.</i> 7 <i>d.</i> ....	145	6	2
Less Income Tax .....	4	4	10
	141	1	4
<i>Rumford Fund.</i>			
One year's dividend on 2430 <i>l.</i> 12 <i>s.</i> 5 <i>d.</i> Consols	72	17	9
Less Income Tax .....	2	1	9
	70	16	0
<i>Fairchild Fund.</i>			
One year's dividend on £100 New South Sea Annuities .....	3	0	0
<i>Sir Clifton Wintringham's Bequest.</i>			
One year's dividend on £1200 Consols ....	36	0	0
Less Income Tax .....	1	1	0
	34	19	0
Carried forward.....	4657	4	9

	£	s.	d.
Brought forward.....	4657	4	9
Miscellaneous Receipts:—			
Sale of Philosophical Transactions, Abstracts of Papers, and Catalogues of the Royal So- ciety's Library .....	280	3	6
Society of Antiquaries, one-half of the expense of Carpet in Ante-Room .....	6	6	0
Treasury, one-half of the expense of printing the Magnetical Observations, Nos. 1 to 6 inclusive, in the Transactions.....	274	7	0
Total Receipts.....	£5218	1	3

## PAYMENTS.

	£	s.	d.
<i>Fairchild Lecture.</i> —The Rev. J. J. Ellis, for delivering the Fairchild Lecture for 1846 .....	3	0	0
<i>Bakerian Lecture.</i> —James David Forbes, Esq., for the Bake- rian Lecture for 1846 .....	4	0	0
Books purchased:	£	s.	d.
Dulau and Co.: for Books .....	22	5	0
Nutt: for ditto.....	2	11	6
Taylor: for ditto .....	17	14	0
Lovejoy: for ditto .....	6	0	9
Stibbs: for ditto .....	3	11	0
Bohn: for ditto .....	3	13	0
		55	15 3
Salaries:—			
Dr. Roget, one year, as Secretary .....	105	0	0
S. H. Christie, Esq., one year, as Secretary..	105	0	0
Ditto for Index to Phil. Trans. ....	5	5	0
Col. Sabine, one year, as Foreign Secretary..	20	0	0
Charles R. Weld, Esq., one year, as Assistant- Secretary and Librarian.....	250	0	0
Mr. White, one year, as Attendant.....	80	0	0
G. Holtzer, one year, as Porter .....	30	0	0
Ditto, for extra Portage .....	10	0	0
		605	5 0
Purchase of £1000: 3 per cent. Consols .....	950	0	0
Fire Insurance, on the Society's Property .....	45	1	6
Gratuity to Bank Clerks and Postages .....	1	4	6
Carried forward.....	1664	6	3

		£	s.	d.
Brought forward.....		1664	6	3
<b>Bills:—</b>				
<b>Taylor:</b>				
Printing the Phil. Trans., 1845, part 2 ..	134	2	0	
Ditto, 1846, part 1.....	43	6	0	
Ditto, part 2 .....	102	10	6	
Ditto, part 3 .....	193	19	0	
Ditto, Proceedings, Nos. 61—64; Circulars, Lists of Fellows, Ballot-lists, Statement of Payments, and Minutes of Council; &c. &c. ....	89	5	6	
		563	3	0
<b>Basire:</b>				
Engraving Plates in Transactions, 1845, part 2.....	33	0	0	
Ditto, 1846, part 2.....	256	16	0	
		289	16	0
<b>Walker:</b>				
Engraving Plates in Transactions, 1844, part 2.....		79	1	6
<b>Bowles and Gardiner:</b>				
Paper for the Phil. Trans., 1845, part 2,	64	16	0	
and 1846, parts 1, 2 and 3 .....	143	14	0	
		208	10	0
<b>Gyde:</b>				
Boarding and Sewing 800 Parts of Phil. Trans., 1845, part 2 .....	27	5	0	
Ditto, 1846, part 1.....	12	12	0	
Ditto, 1846, part 2.....	12	12	0	
		52	9	0
<b>Tuckett:</b>				
Bookbinding .....	53	3	0	
<b>Pouncey and Sons:</b>				
For Stationery .....	5	12	0	
<b>Saunderson:</b>				
For Shipping Expenses .....	10	0	7	
<b>Norman:</b>				
For ditto .....	6	11	0	
<b>Brecknell and Turner:</b>				
Candles, and Lamp Oil .....	17	5	0	
<b>Arnold:</b>				
For Coals .....	23	16	0	
Ditto (Porter's yearly allowance) .....	4	4	0	
<b>Shoolbred:</b>				
For Linen .....	4	12	10	
<b>Sharpus:</b>				
For China .....	2	6	3	
Carried forward.....	127	10	8	2857 5 9



	£	s.	d.	£	s.	d.
Brought forward.....	127	10	8	2857	5	9
Gwillim:						
Mats, Brushes, Fire-wood, &c. ....	8	17	0			
Snell:						
For Furniture.....	7	13	0			
Cubitt:						
For repairs and relaying Carpets, &c.....	50	17	0			
Newman:						
Refilling Water Barometer.....	21	6	0			
				216	3	8
Taxes and Parish Rates:						
Land and Assessed Taxes .....	21	14	2			
Income Tax .....	4	19	2			
				26	13	4
Law Expenses:						
Mablethorpe Tithe Suit .....	37	7	1			
Donation Fund:						
F. Ronalds, Esq., Instruments for the Kew Observatory .....	50	0	0			
Dr. Knorr, repayment of money advanced for the purchase of an invariable pendulum..	50	0	0			
				137	7	1
Petty Charges:						
Postage and Carriage.....	19	19	11			
Expenses on Foreign Packets, &c.....	9	0	11			
Stamps .....	1	9	6			
Charwoman's Wages .....	29	12	6			
Miscellaneous expenses .....	34	15	5			
				94	18	3
Balance in the hands of the Treasurer .....				1885	13	2
				Total....	£5218	1 3

GEORGE RENNIE, *Treasurer.*

*November 30th, 1846.*

*Estates and Property of the Royal Society.*

Estate at Mablethorpe, Lincolnshire (55 A. 2 R. 2 P.). Rent £125 per annum.

Estate at Acton, Middlesex (33 acres). Rent £70 per annum.

Fee farm rent in Sussex, £19 4s. per annum.

One-fifth of the clear rent of an estate at Lambeth Hill, from the College of Physicians, £3 per annum.

£14,000 Reduced 3 per cent. Annuities.

£7852 1s. 1d. Consolidated Bank Annuities.

The Balances in hand, now belonging to the several trusts, are as under :  
viz.—

	£	s.	d.
<i>Denation Fund</i> .....	404	19	11
<i>Rumford Fund</i> .....	137	11	6

The following table shows the progress and present state of the Society with respect to the number of Fellows :—

	Patron and Honorary.	Foreign.	Having com- pounded.	Paying £2 12s. Annually.	Paying £4 Annually.	Total.
November 1845....	13	48	513	19	238	831
Since elected.....	.....	+3	+5	+1	+20	+29
Since compounded .....	.....	.....	+1	.....	—1	
Defaulters .....	.....	.....	.....	.....	.....	
Since deceased ....	.....	—2	—13	—1	—3	—19
November 1846....	13	49	506	19	254	841

*Annual Contributions.*

1830.....	£363	4	0
1831.....	286	0	0
1832.....	255	6	0
1833.....	283	7	6
1834.....	318	18	6
1835.....	346	12	6
1836.....	495	0	0
1837.....	531	0	0
1838.....	599	4	0
1839.....	666	16	0
1840.....	767	4	0
1841.....	815	12	0
1842.....	910	8	0
1843.....	933	16	0
1844.....	1025	16	0
1845.....	1010	0	0
1846.....	1074	0	0